

## Impact Statement Template

For those people who wake up feeling tired and are looking to improve their quality of life, it's a challenge to improve sleep efficiency (sleep architecture), achieving a restorative sleep that favors good daytime performance.

Today, the best option is to get a **traditional high quality mattress**, resort to **drugs** to help you fall asleep, or turn to emerging **smart mattress** solutions, which, because of traditional mattress are **not** support surfaces that **adapt in real time** to movement during the night; drugs generate **cognitive compromises** the next day; and current smart mattresses are **high cost**, and do **not act in combination with the pillow**, yields an interrupted, shallower sleep and a **drowsy awakening**, lack of energy, feeling of tiredness and often back and neck pain and eventually myalgia.

Thus, there is a need to provide a **complete dynamic support solution** adjusted to the personal ergonomic requirements of the skeletal and muscular system during the night, which, if solved, would have the impact of decrease micro awakenings and favor the restorative sleep phases, **increasing the efficiency of the sleep architecture**, to optimize the restoration that increases physical energy, attention, memory and cognitive performance, improving well-being and personal quality of life.

Solving this need can be achieved by the **development of a smart bed ecosystem** (Pillow + Topper) that through Artificial Intelligence and IoT (internet of things) allows to monitor and control in real time the sleeping positions of the person, **equalizing the pressures** of the body support **in a dynamic way** for better sleep restoration, and will be proven by clinical parameters through **Polysomnography** (gold standard for sleep studies) and subjective parameters through **sleep quality satisfaction surveys**.